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09/675,920	09/29/2000	Gary D. Zimmerman	10001745-1	8995

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EXAMINER

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ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

- This action is responsive to the following communication: an Amendment filed on 4/13/06.
- Claims 1-18 are pending; claims 10-15 withdrawn from consideration as of 12/19/05.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young No (US 6587140).

Regarding claim 1, Young No discloses a printing system (*printing system, fig. 1*) comprising:

- a host device (*host device 1, fig. 1*) for executing programs;
- an office machine (*printer 5, fig. 1*) having a print engine for receiving print engine ready data (*col. 4, lines 39-42*) and based thereon for rendering images and a PC card slot (*PC card slot 83, fig. 1*) for receiving PC cards, wherein the office machine does not have a printer controller (*printer controller is incorporated within a PC card 7, therefore, printer 5 does not have a printer controller, figs. 1-2, col. 2, lines 1-37 and col. 4, lines 39-62*); and
- a PC card (*removable PC card 7, fig. 1*) for removably coupling with the PC card slot (*PC card slot 83, fig. 1*) of the office machine and for coupling with the host device (*host device 1, fig. 1*), the PC card having a printer controller integrated circuit (*PC card 7 includes an intelligent circuit 90, fig. 2*) for providing printer controller functions (*printer controller functions, col. 4, lines 25 to col. 5, lines 32*), the printer controller integrated circuit for receiving printer controller ready data from the host device (*image data from host device 1, fig. 1, col. 2, lines 1-38*) and based thereon for generating print engine ready data (*col. 4, lines 39-42*), wherein the office machine requires the PC card

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with printer controller (*printer 5 requires PC card 7 to operate, col. 1, lines 53-60 and col. 2, lines 9-38*) to be coupled thereto to render images, but Young No fails to teach and/or suggest wherein the PC card incorporated with printer controller may be replaced or upgraded by a user intervention of the manufacturer of the office machine.

It is well known in the art that a defected and/or out-dated PC card can be replaced with a newer and/or most updated PC card manually by a user since a PC card as taught by Young No is detachable and removable. If a current PC card is failed and/or defected, one of ordinary skill in the art just simply order a new PC card to replace a defected one or send a defected PC card to fixed and then manually installed by a user without having to send a whole printer to the manufacturer. By replacing a defected PC card with a compatible PC card by a user reduces the costs and time of having to ship the whole printer to the manufacturer.

Claims 2-9, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young as described in claim 1 above, and in view of Benjamin et al (U.S. 6113208).

Regarding claim 2, Young teaches a PC card having a memory device for storing printer's operating program (DRAM 98, fig. 2, col. 2, lines 25-30, Young), but fail to teach printing software having an automatic update module that when executing on the host device automatically downloads to the host device from a source one an updated version of printer formatter firmware and the printing software.

Benjamin, in the same field of endeavor for printing, teaches wherein a printing software having an automatic update module that when executing on the host device automatically downloads (automatically downloading updated/version of printer driver via Internet/Website, col. 3, lines 50-67 to col. 4, lines 1-40) to the host device from a source one of an updated version of printer formatter firmware and the printing software.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Young as per teachings of Benjamin because of a following reason: (1) downloading and installing the latest/newest compatible printer driver will improve operating efficiency of the printer.

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Therefore, it would have been obvious to combine Young with Benjamin to obtain the invention as specified in claim 2.

Regarding claim 3, Benjamin further teaches the printing system of claim 2, wherein the source is one of a web server (Internet web server, col. 3, lines 50-67 to col. 4, lines 1-40) and a computer readable medium.

Regarding claim 4, Benjamin further teaches the printing system of claim 2 wherein the automatic update module when executing on the host device automatically downloads (automatically downloading updated/version of printer driver via Internet/Website, col. 3, lines 50-67 to col. 4, lines 1-40) to the printer formatter an updated version of printer formatter firmware.

Regarding claim 5, Young discloses an office machine (printer 5, fig 1) comprising:

- a laser print engine (different types of printers can be used, col. 3, lines 34-35, laser printer is well known in the art) for rendering images; and
- PC card slot (PC card slot 83, fig. 1) coupled to the laser print engine for receiving a removable PC card that includes a printer controller, wherein the PC card slot is utilized to transfer output from the printer controller to the laser print engine, wherein the office machine requires the PC card with printer controller (*printer 5 requires PC card 7 to operate, col. 1, lines 53-60 and col. 2, lines 9-38*) to be coupled thereto to render images, and wherein a defective printer controller may be replaced by an operational printer controller or an out-dated printer controller may be upgraded with a new printer controller by removing the PC card (*a defected PC card can be replaced and/or upgraded with a new PC card, which is well known in the art*) with the defective or old printer controller from the office machine and inserting a new PC card with the operational or new printer controller into the office machine.

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Regarding claim 6, Young No further discloses the office machine of claim 5 further comprising: a print engine ready data interface (cable 76, fig. 1) for coupling to a PC card and selectively receiving print engine ready data therefrom.

Regarding claim 7, Young No further discloses the office machine of claim 5 wherein the office machine is one of a laser printer, inkjet printer (inkjet printer 5, fig. 1), and all-in-one office machine.

Regarding claim 8, Young No further discloses a removable PC card (PC card 7, fig. 1) for removably coupling with corresponding card slot (printer 5 with PC slot 83, fig. 1) in a laser (different types of printers can be used, col. 3, lines 34-35, and wherein laser printer is well known in the art) printer comprising:

- a printer controller integrated circuit (PC card includes a CPU for processing image/print data, fig. 2, col. 4, lines 39-45) for providing printer controller functions; and
- a connector (connector 41, fig. 1) having a print engine ready data interface for coupling to the office machine (couple to office machine via slot 83, fig. 1) and selectively (PC card interface, fig. 3) receiving print engine ready data therefrom;
- wherein the PC card is adapted for insertion into a corresponding PC card slot (adapted to insert via slot 83, fig. 1) in the laser printer and wherein the formatter integrated circuit may provide printer controller functions (i.e. printing instructions, col. 2, lines 25-38 and col. 39-45) to the laser printer when coupled thereto, wherein a defective printer controller may be replaced by an operational printer controller (*a defected PC card can be replaced and/or upgraded with a new PC card, which is well known in the art*) or an out-dated printer controller may be upgraded with a new printer controller by removing the PC card with the defective or old printer controller from the laser printer and by inserting a new PC with the operational or new printer controller into the laser printer. See discussions in claim 1 above for details.

Regarding claim 9, Young No further discloses a connector (connector 41, fig. 1) having a print engine ready data interface for coupling to the host machine (couple to

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office machine and image system fig. 1, col. 6, lines 1-5) and selectively (PC card interface, fig. 3) receiving print engine ready data therefrom.

Regarding claims 16-18, Tsukamoto further teaches the removable PC card includes a form factor that is one of a form factor of the PCMCIA type I card a form factor of PCMCIA type II card, and a form factor of PCMCIA type III card. Types of PCMCIA PC card is widely available and known in the art.

Response to Arguments

Applicant's arguments filed 4/13/06 have been fully considered but they are not persuasive.

- Regarding claim 1, the applicants argued wherein the removable/detachable printer controller may be replaced or upgraded by a user without intervention of the manufacturer of the office machine is not well known in the art as stated in the office action. In other words, applicants argued that it is not well known to replace or upgrade PC card as taught by Young by a user without intervention of the manufacture if the PC card is defected or out-dated. In addition, the applicants argued the cited reasoning by the examiner are based upon improper hindsight.

In response, the examiner disagrees with applicants' arguments/assertions. PC card 7 (fig. 1) as taught by Young is removable and/or detachable. Since PC card 7 is a detachable device, therefore, a user can remove and re-install it at any moment in time. If a current PC card is failed and/or defected, one of ordinary skill in the art just simply order a new PC card to replace a defected one or send a defected PC card to fixed and then manually installed by a user (via slot 40 or 85, fig. 1) without having to send a whole printer to the manufacturer. In addition, an advantage of PC card 7 of Young is that it helps reducing shipping costs (i.e. due to its weight and its portability) in case it needs to be repair or replace by the manufacturer or vendor. The examiner previously cited several prior art references that teach an example of manually upgrading or replacing a new PC card.

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(1) US 4316720 to Ackerman, teaches an example of replacing a defected PC card with new compatible PC card.

(2) US 6538687 to Saito et al, teaches an example of replacing a defected PC card with new compatible PC card.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

- Regarding claim 1, the applicants argued intelligent circuit 90 of PC card 7 (figs. 1-2) is very different from the printer controller as claimed in claim 1. Printer controller of applicants' invention performs functions (i.e. process encoded data formats called page description language) required by the laser print engine that are missing from and not performed by intelligent circuit 90 of Young.

In response, the examiner disagrees with applicants' assertions/arguments. The examiner first notes to the applicants that nowhere within claim 1 includes features "process encoded data format called page description language". PC card 7 (incorporated with intelligent circuit 90) performs same functions (converting received data into printer format, *col. 4, lines 39-42*) as cited in claim 1.

- Regarding claim 2, the applicants argued the cited prior arts of record are not combinable.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references

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themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Benjamin teaches wherein a printing software having an automatic update module that when executing on the host device automatically downloads (automatically downloading updated/version of printer driver via Internet/Website, col. 3, lines 50-67 to col. 4, lines 1-40) to the host device from a source one of an device automatically downloads to the host device from a source one of an updated version of printer formatter firmware and the printing software. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Young as per teachings of Benjamin because of a following reason: (1) downloading and installing the latest/newest compatible printer driver will improve operating efficiency of the printer.

- Regarding claim 2, the applicants argued the cited prior arts of record fail to teach and/or suggest “printing software having an automatic update module that when executing on the host device automatically downloads to the host device from a source of an updated version of a printer controller firmware and the printing software.

In response, the examiner disagrees. Benjamin teaches wherein a printing software (printer driver update routine, fig. 4) having an automatic update module (automatic update, fig. 4, col. 4, lines 63-67) that when executing on the host device automatically downloads (automatically downloading updated/version of printer driver via Internet/Website, col. 3, lines 50-67 to col. 4, lines 1-40) to the host device from a source one of an updated version of printer formatter firmware and the printing software (printer driver, fig. 4).

- Regarding claim 2, the applicants argued the cited prior art of record (Benjamin) fails to teach and/or suggest printer controller firmware because Benjamin is directed to an inkjet printer, whose construction is different from a laser printer and does not have a printer controller as claimed.

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In response, the examiner disagrees. Claim 2 is dependent of claim 1, wherein neither claim 1 or 2 claims a laser printer.

- Regarding claim 2, the applicants argued the references are improperly combined and based upon improper hindsight to select components or elements from the different references to arrive at the claimed invention.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Updating/installing latest printer driver helps improve the printer's performances and to provide better operating efficiency. The references are combinable because they are in the same field of endeavor for printing (i.e. printing system). In addition, printer controller firmware (i.e. printer driver) is a software program; therefore, it is well known such program can be installed at either from the host computer or a printer side or PC card as taught by Young.

- Any rejections/objections not addressed above have been withdrawn.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US 5930553 to Hirst, teaches an example of automatically downloading new printing software from remote website.
- US 6333790 to Kageyama, teaches an example of updating new printer driver for printer.

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THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

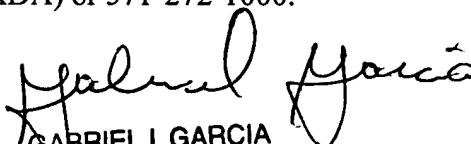
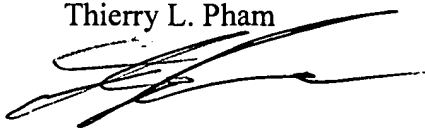
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L. Pham whose telephone number is (571) 272-7439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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